

RICK D. NYDEGGER
BRENT P. LORIMER
THOMAS R. VUKSINICK
LARRY R. LAYCOCK
JONATHAN W. RICHARDS
DAVID R. WRIGHT
JOHN C. STRINGHAM
JOHN M. GUYNN
CHARLES L. ROBERTS
DANA L. TANGREN
ERIC L. MASCHOFF
CHARLES J. VEVERKA
ROBYN L. PHILLIPS
RICHARD C. GILMORE *
STERLING A. BRENNAN *
R. BURNS ISRAELSEN
DAVID R. TODD
GREGORY M. TAYLOR
DAVID B. DELLENBACH
L. DAVID GRIFFIN
ADRIAN J. LEE
FRASER D. ROY
CARL T. REED



R. PARRISH FREEMAN, JR.
PETER F. MALEN, JR.
L. REX SEARS, PH.D.
WILLIAM R. RICHTER
ERIC M. KAMERATH
ROBERT E. AYCOCK
JENS C. JENKINS
KEVIN W. STINGER
WILLIAM J. ATHAY
MICHAEL B. DODD
RYAN D. BENSON
SARA D. JONES
TIGE KELLER
JANNA L. JENSEN
MATTHEW D. TODD
J. LAVAR OLDHAM
MICHAEL J. FRODSHAM
JOSEPH L. KRUPA
BRETT A. HANSEN
BRETT I. JOHNSON
MATTHEW A. BARLOW
WESLEY C. ROSANDER
ANDREW S. HANSEN
CHAD E. NYDEGGER
JOSEPH G. PIA
CLINTON E. DUKE
DAVID J. LORENZ †

WORKMAN | NYDEGGER

INTELLECTUAL PROPERTY ATTORNEYS



1000 EAGLE GATE TOWER
60 EAST SOUTH TEMPLE
SALT LAKE CITY, UTAH 84111
TELEPHONE: (801) 533-9800
FAX: (801) 328-1707
WEBSITE: HTTP://WWW.WNLAW.COM

PATENT APPLICATION
Docket No.: 13768.427

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of)
)
 Lev Novik et al.)
)
 Serial No.: 10/631,212) Art Unit
) 2153
 Filing Date: July 31, 2003)
)
 Confirmation No.: 3308)
)
 For: REPLICATION PROTOCOL FOR)
 DATA STORES)

TRANSMITTAL FOR INFORMATION DISCLOSURE STATEMENT

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Transmitted herewith for filing and pursuant to 37 C.F.R. § 1.97 is an Information Disclosure Statement.

Enclosed also are the following designated documents, as required under 37 C.F.R. §§ 1.97 and 1.98:

- X Form PTO-1449 list of 10 references submitted for consideration.
- X Legible copies of the listed references or their relevant portions.
- All English translations of each non-English reference, if any, within the possession, custody, control or availability of anyone designated in 37 C.F.R. § 1.56(c) (see 37 C.F.R. § 1.98(c)).

The following are included within the Information Disclosure Statement if applicable and as required under 37 C.F.R. § 1.98:

- ☒ Concise explanation of relevance of each reference not in English and unaccompanied by an English translation.
- ☐ Statement that certain listed references not enclosed are substantially cumulative of an enclosed reference.
- ☐ Statement that certain listed references not enclosed were previously cited by or submitted to the Office in the identified prior application which is relied upon for an earlier filing date under 35 U.S.C. § 120.
- ☐ Legible Copies of previously filed Information Disclosure Statement for application Serial No. _____, filed _____.

In order to secure consideration of the items designated above, one or more of the following, if required, is also enclosed:

- ☐ Promptness Certification.
- ☐ Check No. _____ in the amount of \$240.00 constituting submission fee under 37 C.F.R. 1.17(p);
- ☐ Petition for Consideration and Check No. _____ in the amount of \$_____.
- ☒ In the event that 37 C.F.R. § 1.97(c) applies and the Examiner is not satisfied that the Promptness Certification meets the requirements of 37 C.F.R. § 1.97(e), or in any other event remediable by a fee, please credit any over payment or charge any additional fees to Deposit Account No. 23-3178 of the undersigned.

Dated this 25th day of March 2004.

Respectfully submitted,



CARL T. REED
Attorney for Applicant
Registration No. 45,454
Customer No. 022913



PATENT APPLICATION
Docket No: 13768.427

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of)
)
	Lev Novik et al.)
)
Serial No.:	10/631,212) Art Unit
) 2153
Filing Date:	July 31, 2003)
)
Confirmation No.:	3308)
)
For:	REPLICATION PROTOCOL FOR DATA STORES)

INFORMATION DISCLOSURE STATEMENT
UNDER 37 C.F.R. § 1.97

Commissioner for Patents
PO Box 1450
Alexandria, Virginia 22313-1450

Sir:

Please find, pursuant to 37 C.F.R. § 1.98(a)(1), the enclosed Form PTO-1449 which contains a list of all patents, publications, or other items that have come to the attention of one or more of the individuals designated in 37 C.F.R. § 1.56(c). While no representation is made that these references may be "prior art" within the meaning of that term under 35 U.S.C. §§ 102 or 103, the enclosed listed references are disclosed so as to fully comply with the duty of disclosure set forth in 37 C.F.R. § 1.56.

Moreover, while no representation is made that a specific search of office files or patent office records has been conducted or that no better art exists, the undersigned attorney of record believes that the enclosed art is the closest to the claimed invention (taken in its entirety) of which the undersigned is presently aware, and no art which is closer to the claimed invention (taken in its entirety) has been knowingly withheld.

In accordance with 37 C.F.R. §§ 1.97 and 1.98, a copy of each of the listed references or relevant portion thereof is also enclosed.

Statement of Relevance of References Listed
Unaccompanied by English Translation
Under 37 CFR § 1.98(a)(3)

In accordance with 37 CFR § 1.98(a)(3), the following concise explanation of the relevance of each listed reference that is not in the English language and unaccompanied by a translation into English is provided.

Article entitled *A dynamic Synchronization Protocol and Scheduling Method Based on Timestamp Ordering for Real-Time Transaction* discloses a dynamic synchronization protocol and scheduling method based on timestamp ordering for real time transactions are proposed. First, the synchronization protocol which presents transaction abortions by reservation of shared resources is described. Since unnecessary blocking do not occur in this protocol, it has better performance with timing constraints than priority ceiling protocol used in static scheduling environment. Next, the dynamic transaction scheduling method based on timestamp ordering and priority is described. This method is deadlock-free and makes it possible to decrease the deadline miss of transactions. Finally, simulation results of the proposed and other methods are presented and efficiency of the proposed methods are discussed.

Dated this 25th day of March 2004.

Respectfully submitted,



CARL T. REED
Attorney for Applicant
Registration No. 45,454
Customer No. 022913

Applicant: Lev Novik et al.

Confirmation No.: 3308

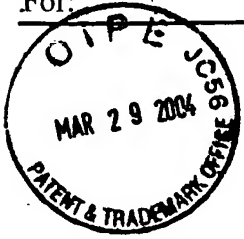
Serial No.: 10/631,212

Att'y Docket No.: 13768.427

Filing Date: July 31, 2003

Group: 2153

For: REPLICATION PROTOCOL FOR DATA STORES

INFORMATION DISCLOSURE CITATIONS MADE BY APPLICANTU.S. Patent Documents

<u>Examiner Initial*</u>	<u>Document Number</u>	<u>Issue Date</u>	<u>Name</u>
------------------------------	----------------------------	-----------------------	-------------

Foreign Patent Documents

<u>Examiner Initial*</u>	<u>Document Number</u>	<u>Publication Date</u>	<u>Country or Patent Office</u>	<u>Translation</u>
------------------------------	----------------------------	-----------------------------	-------------------------------------	--------------------

Other Documents

(including author, title, pertinent pages, etc.)

<u>Examiner Initial*</u>

- | | |
|---------|---|
| _____ 1 | Byung-Yun Lee, et al., <i>Data Synchronization Protocol in Mobile Computing Environment Using SyncML</i> , 5 th IEEE International Conference on High Speed Networks and Multimedia Communication, 2002, pp. 133-137. |
| _____ 2 | M. Adaka, et al., <i>A Dynamic Synchronization Protocol and Scheduling Method Based on Timestamp Ordering for Real-Time Transactions</i> , Institute of Electronics Information and Communication Engineering, April 1999, Vol. J82D-I, No. 4, pp. 560-570. |
| _____ 3 | A. Fukii et al., <i>A Fast Sequential Distributed Synchronization Protocol</i> , Systems and Computers of Japan, November 15, 1998, Vol. 29, No. 12, pp. 11-18. |
| _____ 4 | C. Mourlas, et al., <i>Task Synchronization for Distributed Real-Time Applications</i> , IEEE Computer Social, 1999, pp. 184-190. |
| _____ 5 | J. Parrow et al., <i>Designing a Multiway Synchronization Protocol</i> , computer Communications, December 1996, Vol. 19, No. 14, pp. 1151-1160. |

Examiner:

Date Considered:

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609, draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Applicant: Lev Novik et al.

Confirmation No.: 3308

Serial No.: 10/631,212

Att'y Docket No.: 13768.427

Filing Date: July 31, 2003

Group: 2153

For: REPLICATION PROTOCOL FOR DATA STORES

- _____ 6 S. Chrobot et al., *Common Primitives for Synchronisation Protocols*, Kuwait Journal of Science & Engineering, 1996, pp. 97-111.
- _____ 7 R. Rajkumar, *Real-Time Synchronization Protocols for Shared Memory Multiprocessors*, IEEE Computer Social Press, 1990, pp. 116-123.
- _____ 8 S. Jajodia et al., *Transaction Processing in Multilevel-Secure Databases Using Replicated Architecture*, IEEE Computer Social Press, 1990, pp. 360-368.
- _____ 9 E. Rahm, *A reliable and Efficient Synchronization Protocol for Database Sharing Systems*, Fault-Tolerant Computer Systems 3rd International CI/ITG/GMA Conference Proceedings, 1987, pp. 336-347.
- _____ 10 S. Miranda, *A Formal Specification Framework for Synchronization Protocols in Distributed Data Bases*, Distributed Data Sharing Systems Proceedings of the Second International Seminar, Netherlands, 1982, pp. 45-54.

References Cited by Applicants

While the filing of Information Disclosure Statements is voluntary, the procedure is governed by the guidelines of Section 609 of the Manual of Patent Examining Procedure and 37 C.F.R. §§ 1.97 and 1.98. To be considered a proper Information Disclosure Statement, Form PTO-1449 shall be accompanied by a copy of each listed patent or publication or other item of information and a translation of the pertinent portions of foreign documents (if an existing translation is readily available to the applicant), an explanation of relevance of each reference not in the English language, and should be submitted in a timely manner as set out in MPEP Sec. 609.

Examiners will consider all citations submitted in conformance with 37 C.F.R. § 1.98 and MPEP Sec. 609 and place their initials adjacent the citations in the spaces provided on this form. Examiners will also initial citations not in conformance with the guidelines which may have been considered. A reference may be considered by the Examiner for any reason whether or not the citation is in full conformance with the guidelines. A line will be drawn through a citation if it is not in conformance with the guidelines AND has not been considered. A copy of the submitted form, as reviewed by the Examiner, will be returned to the applicant with the next communication. The original of the form will be entered into the application file.

Each citation initialed by the Examiner will be printed on the issued patent in the same manner as references cited by the Examiner on Form PTO-892.

The reference designations "A1," "A2," etc. (referring to Applicant's reference 1, Applicant's reference 2, etc.) will be used by the Examiner in the same manner as Examiner's reference designations "A," "B," "C," etc. on Office Action Form PTO-1142.

W:\13768\427\DFW0000009876V001.doc

Examiner:

Date Considered:

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609, draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.



PATENT APPLICATION
Docket No: 13768.427

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of)
)
	Lev Novik et al.)
)
Serial No.:	10/631,212) Art Unit
) 2153
Filing Date:	July 31, 2003)
)
Confirmation No.:	3308)
)
For:	REPLICATION PROTOCOL FOR DATA STORES)

CERTIFICATE OF DEPOSIT UNDER 37 C.F.R. § 1.8

I hereby certify that the following documents are being deposited with the United States Postal Service as First Class Mail, postage prepaid, in an envelope addressed to: Commissioner for Patents, PO Box 1450, Alexandria, Virginia 22313-1450, on the 25th day of March 2004.

- Transmittal for Information Disclosure Statement (2 pages)
- Information Disclosure Statement (2 pages)
- Form PTO-1449 listing 10 references (2 pages)
- A copy of each of the references list on the Form PTO-1449
- Postcard

Respectfully submitted,

CARL T. REED
Attorney for Applicant
Registration No. 45,454
Customer No. 022913